Instructions for Completing
Discharge Monitoring Reports & Supplemental Report Forms

Please find attached your Discharge Monitoring Report (DMR) and Supplemental Report forms. These forms are used in the self-monitoring program as required by your NPDES permit. You should make copies of these forms for your use. The reporting period is generally a calendar month. Your reports must be sent to the Department by the 28th day of the following month. **If you are considered a Major Discharger, you must also submit the DMR to EPA as specified in Part C of your permit**. All Major Dischargers will receive quarterly pre-printed DMRs from EPA. Please see that all treatment facility personnel are aware of the permit and DMR form. We seek your assistance in preventing errors and reporting mistakes.

DISCHARGE MONITORING REPORTS (DMRs)

- Inspect the form and contact us immediately if you find errors or omissions. Do not change or add information yourself.
- Complete all blocks where we have listed an entry under Permit Condition. This includes the FREQUENCY OF ANALYSIS and SAMPLE TYPE columns. Do not complete any other blocks.
- Make sure your reports are neat and legible.
- Report in the same units shown on the DMR.
- List the number of times a particular permit condition has been exceeded under the NO EX column. This would include daily, weekly and monthly limitations. If there were none for that month, enter zero (0).
- If there was no discharge for a particular outfall, a DMR must still be submitted. Write "NO DISCHARGE" on the FLOW line or on the first parameter line if FLOW is not listed.
- If a particular parameter is conditional on other parameters (such as FLOW or TEMPERATURE), it may not always be reportable. If this is the case, write "NO DISCHARGE" on that parameter line and provide an explanation.
- If you have **quantity** limits listed on the DMR, you will need to calculate the monthly average **quantity** in lbs/day. To do this, use the following formula:

  mg/l (concentration) **x MGD** (Flow) **x 8.34 lbs/gal = lbs/day**

- The description “Total Monthly lbs” (Monthly Total Mass Loads) for Total Nitrogen (TN), Total Kjeldahl Nitrogen (TKN), Nitrite-Nitrogen (NO_2-N + Nitrate-Nitrogen (NO_3-N), and Total Phosphorus (TP) means the sum of the actual daily discharge loads (lbs/day) divided by the number of samples per month and multiplied by the number of days in the month. Daily discharge load (lbs/day) is the daily flow (MGD) on the day of sampling multiplied by that day’s sample concentration (mg/l) and multiplied by 8.34.
- The description “Total Annual” (Annual Total Mass Load) for TN and TP refers to the sum of the Monthly Total Mass Loads for one year beginning October 1st and ending September 30th. Report the Annual Total Mass Load for TN and TP on the October DMR.
- For every day you sample the effluent, you should record the sample result(s) for that day. The discharge flow should be recorded in million gallons/day for that day. Use these figures to calculate the lbs/day in the formula above. The monthly average lbs/day is the sum of all the daily lbs/day results divided by the number of days you sampled. Do not use monthly average flow and monthly average concentration in the above formula.
- Use **>** (greater than), or **<** (less than) the method detection limit or Minimum Levels (per Part C VI) to report results that are above or below the detection limit or Minimum Levels and cannot be quantified.
- Any time there are data gaps for temperature, the permittee shall attach to the DMR an explanation of how fill-in data were derived and provide the time periods where fill-in data were used. The permittee must provide data to the Department in electronic format upon request. Fill-in data must be highlighted in the electronic file.

- Mail DMRs and DMR Supplemental Forms by the 28th day of the following month to: DEP SCRO, Water Management Program, 909 Elmerton Avenue, Harrisburg, PA 17110 (DEP must receive reports by 28th day).

SUPPLEMENTAL DMR FORMS

Supplemental Form (W) – Industrial Waste

There are Supplemental DMR forms for Outfalls 001 and 002, and IMPs 101 and 102. Every day a sample is collected or measurements are taken, report the results on the Supplemental DMR forms. The headings are meant to be self-explanatory for the parameters to be monitored. If you have any questions, contact the Department. You may contact the Department for these forms in electronic format. You may not change or alter any of the information requested on these forms.

Supplemental Form (W) – Industrial Waste Treatment

- **Influent**. Analyze BOD_5 (not $CBOD_5$) and Total Suspended Solids (TSS) in the influent. Non-municipal facilities are not required to collect influent samples although it is recommended periodically for process control purposes. When samples are analyzed, report the results.

- **Process Control**. For the column titled "Sludge Wasted", specify the volume (gallons) of sludge wasted for each day to holding tanks, drying beds, digesters, or other on-site retention facilities. Do not include the volume of sludge taken off-site, as off-site sludge usage or disposal should be reported on the Supplemental Biosolids Report. For the column titled "Aeration MLSS", indicate the mixed liquor suspended solids (MLSS) concentration in mg/l for your biological treatment facilities. There is no monitoring requirement in the permit; however, it is strongly recommended that MLSS be monitored weekly or more frequently depending on the size of the treatment plant. If you are utilizing other methods to evaluate biological process performance (e.g., settleometer measurements, centrifuge spin, etc.) you should convert these measurements to MLSS concentrations for reporting purposes.

- **Hauled-in Wastes**. For each day in which hauled-in wastes are received by the facility, indicate the total volume of septage, sludge, or other wastes (specify by writing in blank space, include additional sheets if necessary) received during the day. If influent sampling is not conducted on a day in which hauled-in wastes are received, then you must report the total pounds of BOD_5 associated with the hauled-in wastes, and factor this load into the calculation of the average influent BOD_5 load for the month. If the hauled-in wastes are not directly discharged to the headworks, estimate the pounds of BOD_5 associated with supernatant or other return flows that enter biological treatment.

- **Fecal Coliform Bacteria**. Report fecal coliform bacteria per 100 ml for each grab sample collected. The average is reported as the **Geometric Mean**.

Calculation of Geometric Mean for Fecal Coliform

The *average* values requested for fecal coliform on both the DMR and the Supplemental Form is the Geometric Mean. This is not the typical average obtained by adding all of the fecal results and dividing by the number of samples. Below is the formula for calculating the **G**eometric **M**ean.

$$GM = \sqrt[Z]{N_1 \times N_2 \times N_3 \times \ldots . N_Z}$$

Where:

N = sample value, **Z** = the number of samples

As an example, eight (8) fecal coliform samples were collected and analyzed. The results of the analyses were as follows:

N1 =	120	**N**5 =	70
N2 =	80	**N**6 =	100
N3 =	40	**N**7 =	30
N4 =	120	**N**8 =	180

In this example, **Z** would be **8**. The equation would look like the following:

$$GM = \sqrt[8]{120 \times 80 \times 40 \times 120 \times 70 \times 100 \times 30 \times 180}$$

$$GM = \sqrt[8]{1.74 \times 10^{15}}$$

GM = 80.38

For this example, the Geometric Mean is **80.38** and would be reported in the averages column. These calculations are far easier using an electronic calculator with a second function key.

- Report effluent parameters at least as often as specified in the permit. Report any influent and process control data as it is collected.
- You may use a computer-generated report for the Supplemental DMR Forms only. If you develop your own forms, use the same format and do not omit any data requested by these forms.
- Indicate the name of any outside laboratory used at the bottom of the form.
- Please do **not** send laboratory report forms from your testing laboratory. Do not send your bench sheet or other records that should be kept at your facility.
- Check the appropriate boxes at the bottom of the form if no biosolids (sludge) has been removed from the facility for off-site usage or disposal or if there has been no non-compliance discharges.

Supplemental Biosolids Report

- Biosolids (sludge) production information will be used to help evaluate plant performance. Please report only the biosolids that have been removed from the plant digesters and other solids that have been **permanently** removed from the treatment process in the **Biosolids (Sludge) Production Information** table. Do **not** include biosolids from other facilities that are processed at your facility.
- The **% Solids** of the liquid sludge or dewatered sludge must be determined by a laboratory test. Do not estimate or guess this value. An acceptable test method is the "Total Solids Dried at 103-105ºC" procedure in ***Standard Methods for the Examination of Water and Wastewater*****,** 18th edition. This test, number 2540 B, can be found on pages 2-54 and 2-55. Other references such as ASTM may have equivalent tests that are also acceptable.
- The Percent Solids test should be performed on the liquid sludge or dewatered sludge at least once a year. The sample should be representative of a typical load. Calculations can be made throughout that year using this result.
- Enter the % Solids value without moving the decimal point. The conversion factor in the formula given will convert the percent solids to its decimal equivalent. For example:

Hauled as liquid sludge

Gallons	X % Solids	X Conv. Factor	= Dry Tons
2500	X 3.4	X 0.0000417	= 0.35

In the above case, the percent solids were reported as 3.4%. The value 3.4 is used in the calculation. The decimal point was not shifted.

Do not report the same sludge in both "**Hauled as liquid sludge**" and "**Hauled as dewatered sludge**".

- In the **Disposal Site Information** table, report all biosolids leaving your treatment plant for disposal or utilization. If your biosolids are processed and disposed of at another facility, please provide that facility's name under "Site Name" and NPDES permit number or other appropriate permit number. Also list the location (county), dry tons or gallons

disposed or used, the type of disposal or use (e.g., agricultural utilization, other treatment plant, etc.), and the name of the hauler.

Data Reporting Form – Chemical Additives

Report the daily usage of chemical additives in mass (lbs) per day.

Non-Compliance Discharge Report Form

Included with the permit is a Non-Compliance Discharge Report Form. This form, when properly completed, will suffice as the five-day letter as required in the permit. The following sections must be completed:

1. Describe what was discharged (sludge, raw influent, bypass, etc.) and the date(s) the non-compliance occurred.
2. Circle the applicable stream effects, or describe any unlisted impacts.
3. Explain the cause of the non-compliance. Use the reverse side of the paper or attach additional pages as necessary.
4. Fill in the date(s) and time(s) of the event. Indicate when the event will cease.
5. List here what has been done to reduce, eliminate and prevent a recurrence of the non-complying discharge.
6. List here any special analyses performed and/or field tests conducted on the discharge and/or stream.
7. When and who did you notify of the non-complying discharge.
8. Your signature and title.

If you should have any questions, please contact the Water Quality Specialist who inspects your facility. The Specialists can be reached at (717) 705-4707.